

ESF-3 Public Works & Engineering

ESF Coordinator	Snohomish County Public Works
Primary Agencies	Snohomish County Public Works Municipal / Township Public Works & Engineering Agencies Water / Waste Water Service Providers Snohomish County Planning & Development Services
Support Agencies	Snohomish County Facilities Management Snohomish County Department of Emergency Management United States Army Corps of Engineers Snohomish County Parks and Recreation Snohomish Health District Diking / Flood Control Districts Federal and State primary and supporting agency responsibilities for this ESF are outlined in the National Planning Frameworks (Federal) and Washington State Comprehensive Emergency Management Plan.

I. INTRODUCTION

For purposes of management the following ESFs are the primary coordinators for listed services:

- ESF-2 (Communications) manages telecom/data communication service coordination.
- ESF-3 (Public Works and Engineering) manages water/waste water, surface water and solid waste service coordination.
- ESF-12 (Energy/Utilities) manages electrical and natural gas service coordination.

Within Snohomish County:

- There are 20 incorporated municipalities / townships that provide varying levels of public works and engineering services to their respective areas.
- There are over 100 different agencies (municipalities, townships, districts, companies, etc.) that provide water or combined water/sewer service to ~70% of county residents and businesses.

Purpose

The purpose of ESF-3 Public Works and Engineering is to provide organization, mobilization, and coordination of public works and engineering services and infrastructure restoration during and following a disaster in Snohomish County.

Scope

The provision of public works and engineering support involves non-transportation related facilities and infrastructure related to surface water, and solid waste/debris management; water and waste water (sewer) production and management; and other related activities. Activities within the scope include but are not limited to the coordination between local, county, state, and federal agencies, special purpose jurisdictions, and other partners to:

- Facilitating damage assessments of transportation infrastructure, public works facilities, and other appropriate public facilities for structural integrity and safety.
- Coordination of temporary repair, stabilization, or demolition of essential public facilities or infrastructure.
- Coordination of debris clearance operations on public right of ways to facilitate passage of response personnel and equipment for life saving, safety, and infrastructure restoration.
- Coordination of disaster debris and waste management operations to facilitate recovery.
- Coordinate county's flood management operations (flood warning, technical advice, and impact evaluations) with appropriate agencies and districts.
- Emergency restoration of critical public facilities including water and wastewater treatment facilities.
- Maintain a back-up power source for critical county operations to cope with an emergency or disaster.
- Coordinate and support prevention, preparedness, response, recovery, and mitigation activities among public works and engineering stakeholders within authorities and resource limitations of ESF-3 agencies.

II. POLICIES

All ESF-3 Public Works and Engineering Agencies will:

- Utilize, to the greatest extent possible, day-to-day policies to facilitate the integrity of public works systems and infrastructure; except when the situation requires exceptional policy changes or modifications.
- Provide services to the infrastructure and facilities under their respective jurisdiction.
- Support the coordination and information collection of public works damage assessments.
- Responsible for the inspection, repair and operation of its own infrastructure or to those agencies with contractual agreements to maintain infrastructure.
- Ensure that a continuity of operations plan is in place to maintain essential services.

Property owners living in flood hazard areas are responsible for:

- Obtaining sandbags, sand, and other flood-fighting materials to protect their property during flood incidents.
- Filling and placing sandbags and other flood-fighting materials, and cleaning up these materials after the flood incident.
- Meeting any other regulations related to sandbagging/flood fighting activity.

Snohomish County may provide sand and sandbags to distribution points for private property owners during flood emergencies to the extent that resources are available.

III. SITUATION

Emergency/Disaster Conditions and Hazards

Refer to the Snohomish County Natural Hazard Mitigation Plan (published separately) for the natural and manmade events that may affect Snohomish County.

- Snohomish County will periodically experience emergency and disaster situations, which will damage transportation and public works infrastructure and disrupt communications that will inhibit mobility restoration of essential public services.
- Roadways, bridges, tunnels, railways, airports, seaports, pipelines, and other facilities and structures may be weakened or destroyed, necessitating repair, reinforcement, or demolition to ensure safe operation.
- Personnel, equipment, and supply resources may be insufficient to meet demands. Additionally, equipment in the immediate event area may be inaccessible or damaged.

Planning Assumptions

An emergency or disaster may cause extensive damage to property and infrastructure. Structures may be destroyed or severely weakened. Public buildings, roads, bridges, and other facilities may need to be reinforced or demolished to ensure safety. Debris may make streets and highways impassable. Public utilities may be damaged or be partially or fully inoperable.

Access to disaster areas may be dependent upon the reestablishment of ground routes. In many locations, debris clearance and emergency road repairs will be given priority to support immediate lifesaving response activities.

Damage assessments will be required to determine impact and potential workload. In the event of an earthquake, aftershocks will require re-evaluation of previously assessed structures and damages.

Emergency environmental waivers and legal clearances may be needed for disposal of materials and demolition activities for the protection of threatened public and private improvements.

IV. CONCEPT OF OPERATIONS

General

The Snohomish County Public Works Director (or designee) will serve as the primary coordinator of public works and engineering service at the county EOC.

The Snohomish County Department of Public Works is the lead agency for the coordination of public works emergency operations for the county.

Municipal Public Works Directors or Engineers will service as the primary coordinator of public works and engineering services within their respective jurisdictional EOCs.

Special purpose districts or company engineering/management staff will service as the primary coordinator of their provided service within their respective operations center.

Organization

Snohomish County Department of Public Works has five operational divisions:

Road Maintenance functions include but are not limited to:

- Maintenance and minor construction of the County's 200 bridges and its 1,650 total miles of County maintained streets and roads.
- Maintenance and minor construction of the division's yards, properties and buildings at Snohomish, Arlington, Paine Field, Sand Hill and elsewhere
- Assistance in the maintenance of other County facilities such as solid waste drop boxes, transfer stations, fairgrounds and parks facilities under intra-governmental agreements.
- Assistance in the maintenance of other governmental facilities such as Snohomish County Public Utility District (PUD) roads and parking lots, plus various City streets, bridges and other municipal facilities under inter-local, governmental agreements.

Surface Water Management functions include but are not limited to:

- Managing surface water in order to respect and preserve the county's streams, lakes and other water bodies; protect water quality; control, accommodate and discharge storm runoff; provide for groundwater recharge; control sediment; stabilize erosion; establish monitoring capability; and rehabilitate stream and drainage corridors for hydraulics, aesthetics, and fisheries benefits.
- Coordinate flood management activities with Army Corps of Engineers, municipalities, townships, and other flood control districts/agencies.

Solid Waste Management functions include but are not limited to:

- The coordination with private waste collection/hauling companies who collect garbage and take it to a County owned and operated transfer and recycling station.
- Upon receipt, the transfer stations compact the waste into shipping containers and deliver them to a rail yard. A private company, under contract to the County, then transports the containers by train to a privately owned landfill in Klickitat County.
- The operation of Solid Waste Drop Boxes, and a Household Hazardous Waste Drop-Off Facility.
- Coordinate the activities outlined in the County's Debris Management Plan.

Engineering Services functions include but are not limited to:

- Design and project development of roads and bridges, bridge condition inspection, right-of-way acquisition, geotechnical engineering, materials testing, contract administration, consultant selection and contract negotiations, construction management/inspection and survey control.

Transportation & Environmental Services functions include but are not limited to:

- The planning and prioritization of Snohomish County's road activities, including performing environmental reviews of projects and keep the public notification of Public Works projects. Other responsibilities include traffic engineering, and traffic signal maintenance.

Procedures

Mobilization of public works personnel and equipment will be consistent with departmental emergency operating procedures and based on the location/magnitude of the disaster.

All public works agencies (municipalities, townships, districts, etc.) will exhaust local resources, mutual aid, and contracting support, prior to requesting state or federal assistance.

Existing agency procedures for emergency contracting will be followed in accordance with RCW 43.19 and local statute.

Engineering support not available through local and private sources will be requested from state and/or federal agencies through emergency management channels to SC-EOC. If state and/or federal assistance is provided, local officials will need to maintain liaison with to prioritize tasks.

Dependent on resource availability during flood emergencies, the County Road Maintenance Division may deliver sandbags and loose sand to local fire departments and other appropriate locations for county resident use.

Debris clearance and emergency road repairs will be prioritized to support immediate life-safety activities.

Mitigation Activities

- Train personnel in emergency procedures.
- Coordinate the identification of vulnerabilities in electric, gas, water, maintenance and disposal systems and develop remedies.
- Develop mutual aid agreements with neighboring jurisdictions for engineering support.
- Coordinate the development and update maps of city streets, water and sewer lines and utility service areas.
- Maintain and update listings of local private contractors who can provide support during emergencies. Acquaint them with emergency plans and procedures.
- Prepare and assist updating the County's resource database, which identifies source, location and availability of earthmoving equipment, dump trucks, road graders, fuels, etc. that could be used to support disaster response and recovery.
- Participate in emergency exercises.

Preparedness Activities

- Ensure that debris removal equipment is in good repair and that barrier and road block materials are available.
- Ensure that storm water systems are in good repair.
- Review and update all utility and public works maps of jurisdiction.
- Coordinate the development prioritized listing for restoration of utilities.
- Train response staff and volunteers to perform emergency functions.
- Maintain notification and recall rosters that include a communications system to implement call down for personnel assigned to response teams, dispatch points and the EOC.
- Identify potential staging and disposal sites for debris.
- Establish active liaison with all critical public service organizations.

Response Activities

- Provide Engineering and Public Works representative to the EOC, who will advise decision makers and coordinate response efforts among departments and agencies.
- Coordinate ESF-3 activities with Public Information Officer (PIO) and Joint Information System/Center (JIC/JIS) if activated.
- Maintain communications between EOC and engineering, utility, and public works personnel in field.
- Coordinate with water and sewer departments, the Snohomish Health District and the EPA to ensure the integrity of water supplies and sewage systems from the effects of hazardous materials.
- Assist with the coordination of sanitation services throughout emergency.
- Contact private contractors for additional assistance, as necessary.

- Collect and record all incident and infrastructure information.

Recovery Activities

- Support cleanup and recovery operations during disaster events.
- Maintain contact with EOC, provide regular reports, and communicate on all ESF-3 activities.
- Assess and report on critical damage to public buildings, services and other critical assets, including timetable for restoration.
- Continue collection of incident information until EOC is deactivated.

V. RESPONSIBILITIES

General

All primary and supporting ESF agencies must have established disaster related policies, systems, and procedures for:

- Personnel accountability, safety, lines of authority and succession
- Providing logistical support to their personnel and equipment
- Facility / infrastructure damage assessment and reporting
- Continuity of operations to maintain essential services
- Facility / infrastructure repair and restoration

Provide an assessment of damages and operational status of public works facilities and structures to the Snohomish County EOC.

Primary

Snohomish County Department of Public Works:

- Function as lead agency in the implementation of this ESF and the associated response, recovery, mitigation and preparedness activities.
- Provide a liaison to the SCEOC when requested.
- Conduct structural inspection of roads, bridges, culverts, and other structures to determine damage and condition.
- Perform removal of debris and/or wreckage to permit vehicle access and movement.
- Perform repairs of damaged roads, bridges, and other structures within capabilities.
- Provide and emplace signs, barricades, and cones as necessary.
- Assist with traffic control and heavy rescue activities as requested/appropriate.
- Notify appropriate jurisdictional and EOC representatives regarding all road closures, restrictions, and re-routing.
- Provide the SC-EOC with complete damage assessment and priority repair information when requested.

- Stock adequate supplies of sandbags and sand, and make deliveries as requested by SCEOC.
- Coordinate signage and reader-board needs with WSDOT.
- Support of public works field operations.
- Provide, procure, and maintain equipment.
- Deliver sand and sandbags to appropriate locations for flood fighting operations.

Municipal / Township Public Works / Engineering Agencies:

- Conduct structural inspection of roads, bridges, culverts, and other structures to determine damage and condition.
- Perform removal of debris and/or wreckage to permit vehicle access and movement.
- Perform repairs of damaged roads, bridges, and other structures within capabilities.
- Provide and emplace signs, barricades, and cones as necessary.
- Assist with traffic control and heavy rescue activities as requested/appropriate.
- Notify Snohomish County EOC (or appropriate municipal / township EOC) of all road closures.

Municipal / Township / District Water and Sewer Service Providers:

- Provide inspection of water/waste water treatment, storage, and distribution systems/facilities/structures to determine damage and operational status.
- Perform repairs of water/waste water treatment, storage, and distribution systems/facilities/structures within capabilities.
- Notify Snohomish County EOC (or appropriate municipal / township EOC) of damage and operational status of water/waste water treatment, storage, and distribution systems/facilities/structures.
- Implement procedures for the distribution or collection of water/waste water for their respective service areas.
- Continue to manage and operate facilities and structures within capabilities.

Support

Snohomish County Department of Emergency Management / EOC:

- Identify and prioritize emergency response and recovery operations related to this ESF.
- Coordinate resource requests.
- Collect and compile initial damage assessment information in compliance with WA-EMD / FEMA requirements for potential proclamation / declaration of emergency.

Snohomish County Planning and Development Services:

- Lead agency for the inspection of county facilities and, other appropriate buildings or homes in the unincorporated county for structural integrity when indicated.

- Coordinate with the Snohomish County Department of Public Works and the Snohomish County Department of Facilities Management the inspection, repair or relocation of county facilities.
- Expedite the issuance of building permits necessary for the recovery process.

Snohomish Health District

- Support the public works emergency operations by identifying and rectifying public health issues.

Snohomish County Department of Parks and Recreation

- Identify appropriate facilities for the relocation of county services when necessary.

Snohomish County Facilities Management / Maintenance

- Support the SC-EOC maintaining an operational back-up power source.
- Coordinate with the Snohomish County Planning and Development for the inspection of county facilities.

VI. REFERENCES

- Applied Technology Council (ATC)-20-1 Field Manual: Post-earthquake Safety Evaluation of Buildings
- ATC-45 Safety Evaluation of Buildings after Windstorms and Floods
- International Conference of Building Officials (ICBO) Disaster Mitigation Handbook
- Snohomish County, Public Works, Flood Plan
- Snohomish County, Public Works, Snow & Ice Plan

VII. TABS